The students' perceptions of their online learning

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Article Info	ABSTRACT
	This study intends to determine the perceptions of the in-service Teacher profession education program (PPG) students towards Indonesian network learning system (SPADA) hybrid learning. This study employed a survey method with a qualitative approach. Subjects in this study were 82 of 87 PPG Daljab 1 Batch 1 students. The technique of collecting data was through the instruments of questionnaires and interviews. The questionnaire was used to obtain data about the quality of online content and the assessment of online learning that has been carried out. Interviews were conducted to confirm the results of the questionnaire data to see the compatibility between the two data. Data analysis techniques in this study were conducted qualitatively and quantitatively by considering to the research objectives. The results showed that online learning had sharp quality content, can be accepted and well understood, easy to operate and use, overcomes distance and time constraints, and has benefits that are in line with the objectives of PPG implementation.

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1. INTRODUCTION

In the 21st century, the new challenge in education sector is shifted paradigm which learning is no longer focused on teacher but emphasize in students' digital information and communication skills [1]–[4]. Learning resources also turn to applications, websites, computer programs, and others, which is often referred to as e-learning. E-learning is a kind of online learning which has other name such as online learning, web-based learning, or distance learning [5], [6]. Along with this, schools are challenged to provide different learning methods to students who grow up in a digital technology environment that is more familiar with web-based learning, which is referred to as online learning, using widely distributed media, and connecting with the available new technology [7]–[9].

As a form of commitment in improving the quality of education in accordance with the development of science and technology, Ministry of Education and Culture and Ministry of Research and Technology have developed a learning management system (LMS) program through the Indonesian network learning system (SPADA). SPADA is a flexible and distributed long distance learning tool. The main purpose of SPADA itself is to apply technology in education, especially blended learning or hybrid learning as a credit transfer tool to solve one of the higher education challenges today which is increasing access to the quality higher education [10], [11]. Other than intended to improve the quality of students, SPADA also has benefits of preparing professional teachers.

To realize the mandate of the constitution to prepare professional teachers, the government has prepared a teacher profession education program (PPG) in the form of PPG Study Program [12], [13] both at Republic of Indonesia Ministry of Education and Culture or Ministry of Religion, and it is centered in the Republic of Indonesia Ministry of Research and Technology. The presence of the PPG study program is expected to produce professional teachers who will eventually produce graduates superior and competitive through e-learning or SPADA. SPADA has been arranged by PPG organizers to be able to facilitate internet-based learning, with time efficiency and scientific based.

Learning system of Hybrid learning mode in PPG consists of three stages of learning, namely: i) online learning; ii) face to face learning; and iii) field experience practices (PPL). Online learning is done for 12 weeks using BrightSpacee-learning platform with modules that have been prepared by SPADA. Therefore, through this online learning system teachers can still carry out his teaching duties.

Universitas PGRI Palembang as Educational Institution of Educational Personnel (LPTK) has carried out online learning for mathematics teacher. Universitas PGRI Palembang received a quota of in-service PPG students at phase II with total participants of 27 students, Universitas PGRI Palembang conducted in-service PPG Batch1 with a total of 87 students divided into three study groups. All PPG participants are required to attend online learning both in pedagogical and professional fields for three months with content in the form of modules and learning activities (discussions, final assignments, formative tests, summative tests, and video conferences) that have been provided by Ministry of Research, Technology and Higher Education through SPADA.

Nationally, based on the evaluation of the PPG program conducted by Ministry of Research, Technology and Higher Education [14], [15] of the 2018-2019 UKMPPG results, only 62.6% of participants passed in the September-October 2018 period for the in-service PPG program while the in-service PPG through hybrid learning in 2018 there were 803 participants who did not graduate from 16,567 participants. The statistics highlight the importance of considering various online user characteristics when providing data and long-distance media, such as cultural background, technical experience, technological equipment, and physical/cognitive abilities. It is crucial to provide the widest access to online facilities to avoid the phenomenon of the digital divide, especially in fields of application that are socially and culturally fundamental. Therefore, one of the main objectives of e-learning application developers should be to ensure the usability and accessibility of a large number of users, along with meeting the necessary prerequisites for users to profitably exploit such applications [16], [17].

Likewise, the process that online PPG participants go through in relation to learning objects will give rise to a separate perception through interpretation and how participants interpret online learning itself. This interpretation can provide an overview of online learning that they have carried out so that it can be a reference in evaluating learning objects. In this case, the object of learning and its arrangement in the LMS is evaluated in terms of its suitability with the outcome or learning outcome and pedagogical considerations in its selection, development and structuring.

Previous studies shown that online learning has a positive effect on learning outcomes themselves. The results of Saputro and Susilowati [10] of 30 PPG students for madrasa showed that e-learning are practical, effective, and simple, in the implementation. Studied on hybrid learning method on the ability of representation in a group of students [18]. The results showed that there was an increase in mathematical representation in the level of intelligence, namely in language intelligence, mathematical logical intelligence, and spatial visual intelligence. Research on SPADA hybrid learning was also carried out [19]. The conclusion of their research was that SPADA network was an interactive application that connects instructors with participants so that the learning objectives produce competent teachers can be achieved. E-learning is a learning that was meaningful and also as a media that can activate teachers and students in learning activities [20].

However, there were several studies regarding the use of hybrid learning method in learning that do not achieve maximum results. The statistical courses taught with this method were not as expected [21].This is partly because of the learning characteristics that must be demonstrated directly and the lack of readiness of students in accepting material by e-learning. There are several factors being the reasons why hybrid learning does not actually have a better impact. There are four factors that determine further increasement in the implementation of hybrid learning, which are: mentors, participants, managerial, and facilities [14]. These four factors support and influence one another. However, positive effects on an effort certainly are not directly felt by the related parties. The benefits of an application can be felt along with the improvement and evaluation of the methods used in learning, in this case hybrid learning or network learning.

Based on these results, the researcher argued that students or online users who are directly involved in learning play crucial role in enhancing the quality of learning process. This perspective prompted the researchers to gather insights from PPG students as subjects of online learning. Specifically, this study focuses on the perceptions of PPG participants at Universitas PGRI Palembang regarding the quality of online content, with a sub-focus on their perceptions of the implementation of online learning itself. The anticipated outcome

is that the findings from this research can serve as valuable inputs and contributions to informed decision-making for PPG making for PPG organizers within the Ministry of Research, Technology, and Higher Education, as well as in the LPTK institutions, particularly at Universitas PGRI Palembang. Moreover, academically, the study's results are expected to serve as a reference for future research endeavors, particularly those pertaining to the utilization of learning technology based on e-learning.

2. RESEARCH METHOD

   This research used the survey method with qualitative approach. The research was carried out in the PPG Study Program in the phase I in Faculty of teacher Training and Education, Universitas PGRI Palembang. The subjects in this study were 87 students of PPG in-service for Mathematics Education, Batch 1. Of this number, 82 people participated as respondents. There were three types of instruments used, namely:

a) Online content quality assessment consisted of 20 questions. This instrument referred to a survey instrument for the quality of online learning in higher education that has been prepared by Ministry of Research, Technology and Higher Education which is modified based on previous studies [22], [23] accordance with the research purposes.

b) Participant perception sheets on online learning consisted of three aspects, namely: i) absorbing or receiving; ii) understanding or comprehension; and iii) usefulness and convenience. This perception instrument was a simple questionnaire with 15 statements. This instrument was compiled based on aspects of perceptions of learning mathematics and perceptions of learning through IT [24].

c) The interview was conducted through a structured method, in which the researcher had prepared the question sheets that had been set before and the respondents immediately gave their answers. The question given was not related to the previous question. Interview guides were prepared based on the statement that online brings the impact of learning more actively and effectively, providing different ways of communicating with conventional learning with different methods and not through face-to-face learning in the classroom [25].

   Data analysis started by calculating individual participant assessments, accumulating all grade points, and finally obtaining values on each statement item. The researcher then noted all the findings that appear. The obtained qualitative data through interviews were also managed simultaneously. It aimed to make data more easily understood and analyzed. All-important findings from the respondents' perception data, compare with other findings both from the results of the perception and interviews, analyze, and interpret these findings with an appropriate comparison. Analytical induction to uncover the phenomena revealed from the results of the perception questionnaire and interviews were confirmed and compared with each other and described based on relevant theoretical perspectives. Content analysis was conducted so that researchers can analyze all questionnaire data quantitatively but do not eliminate the contextual meaning to explore research findings. In this study each statement has a value in accordance with the choices given by respondents. These values were then accumulated and calculated based on the percentage.

3. RESULTS AND DISCUSSION

3.1. Results of questionnaire data analysis

   Student perceptions have an important role in determining their learning outcomes [26]. Positive perceptions of online learning can positively impact student behavior in their learning process. In this context, the analysis results of students' perceptions data on the quality of online content are shown in Table 1, while other additional the analysis results of students' perceptions data on online learning can be seen in Table 2. Thus, it is important to understand how students' perceptions may influence their online learning experiences.

   Online learning should contain material that is clear, communicative and easy to understand. The completeness of the media displayed is in accordance with the realization of digital assets that build learning materials. In addition, it is equipped with an evaluation. Summative questions are in accordance with the learning material. Based on Table 1, the quality of existing or available content meets the requirements for assessment aspects. Among other aspects of the assessment of: clear material structure; content presented in communicative language, complete, and there are links to sites to enrich the content; complete reference; clear visual display, easy to read, adequate graphics, and free of visual disturbances; assignment in accordance with the material; there were formative and summative questions; there was a duration of learning time for each module in accordance with Learning Outcomes; and there was a balance between the responses given by the instructor and the problems faced by students in the material and also the network.

Table 1. Questionnaire analysis results about SPADA online learning

No	Statement	Score conversion	Category
1.	The material structure was clear	88.11	Very well
2.	Each topic and sub-topic have an introduction, explanation, and summary	90.24	Very well
3.	Content was presented in a communicative language, complete, and there are links to sites or documents to enrich the content	86.89	Very well
4.	Listed all references used	85.98	Very well
5.	Available links to terms and their meanings, list of notations, and lists of symbols, especially if often mentioned in the text	71.95	Good
6.	Clear visual display, easy to read text, graphics, and charts are labeled adequate and free of visual disturbances	82.01	Very well
7.	The concept of learning material represented in the form of a syllabus	79.57	Good
8.	The concept of the learning material represented in the form of a learning plan	80.79	Very well
9.	Description of the order in which material was delivered and interactive features are suitable for users	85.37	Very well
10.	Concept and didactive were in line with the material	85.67	Very well
11.	The concepts and principles of the delivery method were in accordance with the learning material	84.76	Very well
12.	The choice of media was in accordance with the realization of digital assets that build learning material	88.11	Very well
13.	The selection and description of the communication media used in accordance with the learning material	86.59	Very well
14.	The assignment form in the discussion forum was in accordance with the learning material	91.46	Very well
15.	Formative questions were suitable with learning material	89.94	Very well
16.	Summative questions were suitable with learning material	89.33	Very well
17.	The duration of learning time for each module was suitable with the learning outcomes	78.96	Good
18.	The developed knowledge started from the basics and then progresses to higher skills such as application, integration, and analysis	87.20	Very well
19.	There was a balance between the responses given by the instructor and the problems faced by students in the network	90.24	Very well
20.	There was a balance between the responses given by the instructor with student problems in the material	88.72	Very well
	Mean	85.6	Very well

Table 2. Analysis of perception questionnaire results

No	Statement	Number of statements				Score Conversion
		STS	TS	S	SS	
1	I can accept online learning as a suitable learning process with the objectives of the implementation of PPG	0	3	42	37	85.1
2	I can accept online learning easily	0	23	40	19	74.4
3	I can accept online learning quickly	2	39	26	16	67.7
4	I can accept a small portion of online learning	13	29	30	10	64
5	I can clearly accept the content in online learning (writing, pictures and graphics can be read clearly)	0	7	50	25	80.5
6	I can only understand part of online learning features and menus	8	23	35	16	57
7	I can easily understand the operation in online learning	0	10	31	41	84.5
8	Online learning does not support other forms of learning	7	31	31	13	65.2
9	I need the help of others to understand the material contained in online learning	10	23	37	12	59
10	Every material contained in online learning has nothing relation with other subjects	3	30	36	13	57
11	Online learning is very useful for efficient learning time	0	11	28	43	84.8
12	Online learning is effective as a substitute for face-to-face lectures	0	5	34	43	86.59
13	Online learning is interactive learning media	0	1	29	52	90,5
14	Online learning helps me to improve pedagogic and professional competence	1	9	32	40	84
15	Online learning can be learned and operated easily	0	8	41	33	82.6
	Mean					74.86

Based on Table 2, overall, respondents' perceptions of online learning have a score of 74.86 with the good category. In the first aspect, which is accepting or absorbing (statements 1 to 5), it can be seen that online learning can be very well received as a learning that is in line with goal of PPG implementation, but 51.2% of respondents stated that they only received a small part from online learning, while 48.8% stated that they had fully received online learning. The analysis results of the second aspect (statements 6-10), found that although operations in online learning can be easily understood, the features or menus contained in online learning can only be understood by partial respondents. Meanwhile, 53.6% of respondents stated that online learning did not support other forms of learning, comparable to the 10th statement that every material contained in online learning had nothing to do with other subjects agreed by 59.75% of respondents. The third aspect, namely usefulness and convenience (statements 11 to 15) have the highest score between the two previous aspects. If seen from Table 2, it can be said that respondents can feel the benefits and the ease of using SPADA online

well. It was seen that less than 12% of respondents stated that online learning did not make learning time efficient and online learning did not help improve pedagogical and professional competence. In other words, more than 85% of respondents stated that online learning was effective, efficient and easy to operate and do.

3.2. Interview data analysis results

Interviews were conducted to confirm the findings obtained from the analysis of the perception questionnaire. The answers given by respondents were varied and there were answers that were more than one type of answer. Some of the same answers were then grouped and the percentage was calculated. Each type of answer was calculated by the percentage of the total number of respondents. Table 3 presents some of the answers given by respondents who have experienced data reduction.

Table 3. Interview data analysis results

No	Question	The answer	%
1	How do you divide your time between working online and learning in your school?	When not teaching as much	32.9
		Evening	51.2
		The time break	17.1
		At home	50.0
2	What are the most dominant obstacles during your online learning?	Split time	13.4
		Signal	81.7
		Electricity often goes out	20.7
		Not familiar with online	4.9
		Time is not recorded 4 hours/day	6.1
3	What was the most interesting experience during the online learning process?	During video conference	40.2
		Doing the final project in a short time	10.9
		When working on the summative problem the power goes out	9.8
		Communicate with friends from other regions	8.5
		Opinion in the discussion forum	8.5
		New and unknown material	9.8
4	Is online learning time and the number of assignments for each online module suitable?	Not appropriate	42.7
		Already appropriate	57.3
5	Did you establish two-way communication during online learning with instructors?	Yes	79.3
		No	12.2
6	How do you communicate with friends during online learning? What effort have you made?	Via WhatsApp group	76.8
		Telephone	18.3
		Personal WhatsApp	23.2
		Discussion forum	12.2
7	Do your colleagues at school support you during online learning?	There is no support	6.1
		There is support	92.7
8	During the course of online learning, did you use private funds?	Yes	97.8
		No	1.2
9	Does the implementation of online learning have a detrimental effect on health?	Yes	91.46
		No	8.54

Based on Table 3, we reduced the answer data and found the findings of each question. Respondents did most online at night, came home from teaching, did it at home, and when there was no teaching schedule. In other words, the respondent prepared a special time to do online and was not doing other activities. The most obstacles encountered by respondents when doing online were the absence of a signal while online, followed by the black out of electric power, and the difficulty in dividing time. Another factor with a less percentage was the obligation to be online for 4 hours/day was not fulfilled, lack of time, difficulties in answering questions, and responsibility outside the teaching assignments such as being a homeroom teacher, become a separate obstacle when doing online. The most interesting online experience was during video conference.

As already known, video conferencing is an online face-to-face facility between PPG participants and their instructors. Working on the final project within the given time, can communicate with participants from other regions, express opinions in the discussion forum, new unknown materials became interesting things that respondents encountered while attending online learning. Most respondents stated that they established two-way communication during online learning even though some of them stated that there was no communication with the instructor or communication occurred but only occasionally. Most respondents communicate with PPG fellow participants via WhatsApp's both in groups and in private. Communication was carried out around the information on PPG activities, the study material, and discussion of the tasks given. The online SPADA discussion forum is also a forum for communicating related material with other fellow participants. Coworkers, namely fellow teachers, provide support to respondents to carry out online activities and PPG activities in general. Support provided in the form of assistance such as replacing teaching when the respondent had to complete tasks in limited time, provide advice and input in answering questions, lend a laptop and so forth.

Almost all respondents stated that they spent private funds to attend online lectures. Costs incurred in form of internet quota and transportation costs for respondents whose locations are far from internet signals. They realized these as a consequence of learning activities and was a support for learning activities. However, when compared to having to go to the campus that was far from the origin place of students, what they spend for online learning was much cheaper. Almost all respondents experienced health problems while taking online learning. However, the cause was not from the online application but rather internal factors such as fatigue in carrying out PPG online activities. Despite of having a flexible time, the implementation of online learning is felt to be quite time and energy consuming because it is carried out in conjunction with teaching assignments and other tasks so that the respondents do not get enough rest and often neglect their own health condition.

3.3. Discussion

The quality content assurance of Indonesian online learning system content (SPADA) based on PPG students' perceptions is included in the excellent category. Web-based learning is one of implementation of electronic learning [27]. Based on the research findings, the use of this technology is greatly felt by PPG students in addition to having interactive media, information technology makes it easier for them to communicate between fellow participants and instructors. Accordingly, the results of the study indicate that online learning can be easily learned and operated by PPG students.

Based on one of the results of the study, most PPG students stated that online learning was more effectively carried out because they did not have to leave their duties as teachers, not hindered by distance, and could be done at any time. This was comparable with study by Tjokro [28] that information and telecommunications technology will eliminate the limitations of space and time in education [28]. According to Tjokro [28], the advantages of this learning include: i) more easily absorbed, in the form of: images, animations, videos, and texts; ii) more cost effective; iii) much more concise; and iv) available 24 hours/day.

Many advantages are obtained from online learning. The importance of learning with an online system, which are: i) can create learning communities geographically, participants throughout the country but can conduct direct discussions; ii) time and cost efficient because it can be done anywhere and anytime; and iii) learning materials that can be accessed anytime with technological sophistication. Learning materials can be downloaded and can be learned at any time without time limit [29]. This become important research finding, which is able to establish communication with fellow teachers, conduct interactive discussions and flexible time allows them to manage when doing online along a predetermined schedule so that learning time can be more efficient. The costs incurred are even cheaper as compared to having to carry out full time lectures at campus.

In-service PPG students' perceptions about online learning are included in the excellent category. Online learning uses LMS, which is software or web-based applications that are used to manage online learning activities. In line with the findings of this study, Darmayanti et al. [22] found that the online learning process or e-learning requires a very high commitment from the lecturer [22]. The lecturer must prepare the material in the discussion session, and also must always motivate students to always interact on discussion forums with instructors or colleagues.

Behind the effectiveness and efficiency of online learning, the results of the study indicate that there are various obstacles felt by PPG students. The most common obstacle is signal interference when doing online. This is often found in online learning systems as suggested by Darmayanti et al. [22] that the constraints that are often experienced by participants in implementing online mode teacher learning programs are servers that are difficult to connect from LMS application to PPG students.

The interviews results with PPG students found that online activities had an impact on declining health conditions. If traced from the previous answers, this online activity is time and energy consuming. Signal interference makes them often have to go to other places that are reached by the internet network. This situation causes fatigue that occurs in most in-service PPG students. This is because students who work at the same time have limited or even less rest time because their energy is suspended with two activities that are equally important [30], [31]. In addition to doing their duties and obligations as a teacher, they must complete their assignments online with limited time. This situation is thought to affect the health of PPG students.

Broadly speaking, online learning through hybrid learning has a positive perception for its users, both in quality and implementation, effective as a method for achieving the objectives of PPG implementation and efficient in terms of time and distance. This is supported by the results of research conducted by Saputro and Susilawati [10] which showed that online LMS was effective for learning even though the level of ease of use was different. In addition, virtual classes were proven to be able to develop social relationships and a sense of togetherness in a community [32]–[34].

4.   CONCLUSION

Based on data analysis and research findings, the following conclusions can be drawn: i) SPADA online content has quality content that can be well accepted and understood by PPG students as learning process in accordance with the objectives of PPG implementation; ii) online learning can make time efficient, effective as a substitute for face to face learning, can improve pedagogical and professional competence; and iii) obstacles in online implementation are the absence of signals when online, the power outage, and the difficulty in dividing time between working and doing tasks. The positive findings obtained from the results of this study showed that SPADA online learning has very good quality content and supports learning activities efficiently and effectively. Therefore, hybrid learning using SPADA is recommended to be implemented in learning activities other than PPG and also at other educational levels. However, it is necessary to improve the internet network system so that it can be reached more widely to remote areas so that all PPG participants can maximize their time to take part in online learning.

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